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A CASE OF TRAUMATIC RETROPHARYNGEAL HEMATOMA NECESSITATING EMERGENCY TRACHEOSTOMY

Abstract:
Patients with traumatic retropharyngeal hematoma are rare referrals to the Head and Neck surgery division of Otolaryngology Department of the Teaching Hospital. We report a case of a 30 year-old man, who sustained a road traffic accident leading to injury in the neck. He presented with the complaints of neck pain, hoarseness, difficulty in swallowing and progressing dyspnea of 16 hours duration. Emergency tracheostomy was performed and retropharyngeal hematoma was evacuated. Patient recovered completely by about 8 days.

Key words: Retropharyngeal hematoma, Traumatic, Respiratory distress, Tracheostomy.

INTRODUCTION:

Athirty years year-old man presented with history of pain in the neck, hoarseness, difficulty in swallowing and progressing dyspnea of 16 hours duration after sustaining injury to neck during a road traffic accident. The diagnostic work-up comprising of lateral radiograph and flexible nasopharyngolaryngoscopy disclosed the constellation of a retropharyngeal hematoma without further injury of the cervical spine structures. Compression of the upper airways was evident. Acareful history and an appropriate diagnostic approach are essential for the work-up and management of such a life-threatening situation. Although rare, retropharyngeal hematoma may cause life-threatening airway compromise.

CASE PRESENTATION:

Thirty years old man from Kathmandu was brought to the emergency department of our hospital by his wife with the chief complaints of respiratory difficulty following road traffic accident which took place16 hours ago.The patient was traveling on the roof of a bus while the telephone wire crossing above the road struck him on the neck and he fell down on the roof of the bus. He had mild, continuous, dull aching pain in the anterior and anterolateral aspect of the neck and bluish discoloration over the left shoulder immediately after trauma. Subsequent to this, he developed swelling on the front and lateral aspect of the neck on both the sides which was progressively increasing. He also had difficulty to swallow the food including water but there was no history of aspiration. After 8 hours of injury he had shortness of breath and noisy breathing mainly during inspiration. There were two episodes of blood stained sputum but the amount was minimal. There was no history of loss of consciousness, no difficulty to move any parts of the body, no history of parasthesia, no severe external trauma and bleeding and facial swelling, deformity or asymmetry. He had not consumed alcohol neither was taking any medications for other diseases as well. The patient's past medical history was otherwise unremarkable, and did not include use of anticoagulants or anti-platelet agents. The patient was in respiratory distress with inspiratory stridor and was sweating. At the time of examination, he was on oxygen mask with 3 litres of oxygen per minute. His blood pressure was 150/80 mmHg, pulse was 96 beats per minute, respiratory rate of 24 breaths per minute, and he appeared in obvious respiratory distress. Oxygen saturation was 86% with 3 liters / min of oxygen through the mask. Complete otolaryngology and head and neck examination was performed. There was diffuse swelling of the neck from submentum to the suprasternal notch. Laterally the swelling was extending to the anterior border of sternomastoid on the right side and anterior border of trapezius and to the acromion process on the left side. There were several areas of abrasion and ecchymoses on both sides of the neck and upper chest, both on right and left side (Fig. 1 and Fig. 2).

Figure 1. Showing patient with tracheostomy tube . Echymoses over right and left shoulders and right chest

Range of movement of both shoulder joints was full. There was mild tenderness on the neck, trachea was central, laryngeal crepitus was decreased and there was no surgical emphysema of the neck. On examination of the oral cavity, the lower lip was swollen with abrasions over it. There was mild forward bulging of the posterior wall of oropharynx. There was neither any bleeding site nor blood clots in the oral cavity. Indirect laryngoscopy was difficult to perform. Examination of cervical spine, nose and ears were unremarkable. Routine blood and urine examination were also within normal limits. Laboratory studies, including coagulation profile and platelet count, also were within normal limits. X- ray soft tissue neck lateral view showed widened prevertebral space but without cervical spine injury. X-ray of both the shoulder joints and chest were within normal limits.

Figure 2. Showing findings on lateral view

The provisional diagnosis was made of traumatic retropharyngeal hematoma in its expanding stage with stridor. Surgery was planned. He underwent emergency tracheostomy under local anesthesia and the airway was secured with cuffed tracheostomy tube No. 8. During the procedure, around 5 cc of clotted blood was found in the strap muscles and was evacuated. Patient was kept under intravenous antibiotic coverage. Flexible nasopharyngolaryngoscopy was performed on the subsequent day. The posterior wall of the oropharynx was still pushed anteriorly. There was hematoma on the left pharyngo-epiglottic fold and lateral wall of pyriform sinus on the left side. Right hemilarynx was normal. The endolarynx was normal with normal vocal cord mobility. Incision and drainage of the hematoma was carried out by per-oral approach under topical anesthesia using 15% lignocaine spray. About 500 ml of clotted blood was removed. There was no active bleeding and recollection. Patient was decanulated on the fifth post operative day and discharged on the eighth post operative day. He came for follow up after a week of discharge from the hospital. There were few granulations over the tracheostomy site. Flexible nasopharyngolaryngoscopy was performed and oropharynx and endolarynx were found to be normal.

DISCUSSION:

The retropharyngeal space is a potential space that lies posterior to the buccopharyngeal fascia surrounding the pharynx, anterior to the prevertebral fascia of the cervical and thoracic spine and extends laterally to the carotid sheaths. It begins at the base of the skull and terminates in the superior mediastinum at the level of fourth thoracic vertebra.[1] The mechanisms triggering hemorrhage into this space are thought to include injury to the longus colli muscles on the anterior surface of the vertebral bodies, the anterior longitudinal ligament or the anterior muscular and spinal branches of the vertebral arteries.[2] These injuries are most commonly associated with closed cervical neck trauma and anticoagulant therapy but they have also been attributed to blunt head trauma, bleeding diathesis, canulation of the internal jugular vein, arteriography, whiplash injury, foreign body ingestion, retropharyngeal infection, carotid artery aneurysm, vigorous carotid sinus massage, metastatic disease and even spontaneous.[1] Patients classically present with "Capp's Triad" which includes compression of the trachea and esophagus, displacement of the trachea anteriorly and bruising of the neck and chest.[3] Patients whose symptoms are suggestive of retropharyngeal hematoma warrant close and often prolonged follow-up because a delay can exist between the patient's initial injury or symptoms and the development of respiratory distress.[4] Similar situation happened in our patient who started developing dyspnea after around eight hours of injury. Although most patients become symptomatic immediately or within hours of the development of the hematoma , there have been reports of patients who experienced airway obstruction as long as five days after developing the initial symptoms of airway compression.[5] Clinicians should maintain a high degree of suspicion when evaluating the patients presenting with symptoms of airway compression whose mechanism of injury is consistent with those associated with retropharyngeal hematomas because these initial symptoms may progress rapidly to lethal airway obstruction. In particular, dyspnea should be considered a key clinical indicator of a possible airway crisis because significant airway compression must occur prior to a healthy patient reporting a dyspneic sensation.[2]

Blunt trauma causing a retropharyngeal hematoma without an associated cervical fracture is a relatively rare occurrence.[6] Our patient in this report also had blunt injury of neck without cervical or thoracic trauma. Many circumstances can lead to its development as stated earlier. The assessment must be made extremely carefully as such a hematoma can induce an airway compromise. Trauma being a key factor, it can also present with cervical spine fractures, increasing the risks. The case of retropharyngeal hematoma in our report required surgical management with tracheotomy and per-oral evacuation of hematoma. Total recovery was obtained in 8 days. Surgery for retropharyngeal hematoma is not always mandatory but it becomes necessary when a major dysphagia or dyspnea occurs.

CONCLUSION:

Retropharyngeal hematoma with life-threatening airway compromise can develop hours or days after a precipitating injury. Clinicians should be alert to the potential for this delayed airway collapse, and should also be prepared to rapidly secure the airway in this patient population likely to have concomitant cervical spinal or head injuries.

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